

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1 1. (Currently Amended) A computer system communicatively coupled to a
2 network, comprising:
3 an operating system;
4 a programmable non-volatile memory;
5 at least one microprocessor operatively coupled to execute at least one instruction from
6 the programmable non-volatile memory in response to a boot request, the microprocessor
7 configured to controllably write to the programmable non-volatile memory; and
8 at least one fixed storage device operatively coupled to the at least one microprocessor,
9 wherein the at least one fixed storage device receives from the network at least a portion of a
10 boot image comprising:
11 a system loader;
12 a firmware patch;
13 a configuration file ~~configured~~ modifiable to direct the system loader to execute
14 the firmware patch instead of the operating system in response to a subsequent boot request; and
15 the firmware patch configured to write a firmware upgrade to the programmable
16 non-volatile memory, the firmware patch comprising:
17 an install application;
18 a firmware revision containing at least one instruction different from
19 firmware within the programmable non-volatile memory; and
20 a flash application having a bootable kernel, firmware update logic, and a
21 non-volatile memory interface, wherein the firmware update logic is executable on the
22 microprocessor to write the firmware revision to the programmable non-volatile memory.

1 2. – 3. (Cancelled)

1 4. (Previously Presented) The computer system of claim 1, wherein the at least one
2 fixed storage device receives and stores new firmware.

1 5. (Previously Presented) The computer system of claim 1, wherein the at least one
2 fixed storage device receives and stores an application.

1 6. (Previously Presented) The computer system of claim 1, wherein the bootable
2 kernel comprises a system loader interface and reboot logic.

1 7. (Previously Presented) The computer system of claim 6, wherein the bootable
2 kernel comprises an operating system.

1 8. (Currently Amended) The computer system of claim 6, wherein the bootable
2 kernel comprises a file management system.

1 9. (Currently Amended) A computer network, comprising:
2 a plurality of computer systems communicatively coupled to a network infrastructure,
3 each of the plurality of computer systems configured with a non-volatile memory containing a
4 common firmware version designated for replacement and a fixed storage device containing a
5 boot image having appropriate instruction code suited to transition the respective computer
6 system to an operational mode;
7 a user input device communicatively coupled to at least one computer system
8 communicatively coupled to the network infrastructure, the at least one computer system
9 configured with write access permission for the respective fixed storage device associated with
10 each of the plurality of computer systems, wherein an input from the user input device initiates a
11 transfer of a ~~firmware upgrade patch~~ modified boot image to the plurality of computer systems,
12 the ~~firmware upgrade patch~~ modified boot image comprising a revised firmware, a configuration
13 file, an install application, and a firmware patch having a bootable kernel different from an
14 operating system operable on the respective computer system, the configuration file modifiable
15 to select the firmware patch instead of the operating system for execution on a next boot, the
16 ~~transferred firmware upgrade patch~~ install application executable in the respective computer
17 system to verify whether the revised firmware is able to successfully upgrade the common
18 firmware version.

10 – 17. (Cancelled)

18. (Previously Presented) A method for performing a firmware upgrade,
comprising:
delivering, over a network, a firmware install patch containing new firmware, an install
application, a configuration file, and a flash application to boot disks within respective plurality
of networked computer systems, each of said computer systems having a version of a firmware
designated for the firmware upgrade, wherein the flash application comprises a bootable kernel,
firmware update logic, and a non-volatile memory interface;
initiating the install application contained within the firmware install patch;
modifying the configuration file in the firmware install patch to direct a system loader to
execute the firmware install patch instead of an operating system in each computer system in
response to a subsequent microprocessor reset;
initiating a microprocessor reset;
executing the flash application in response to the initiated microprocessor reset;
erasing, by the firmware update logic, the firmware within each of the plurality of
networked computer systems in response to execution of the flash application; and
writing, by the firmware update logic, the new firmware to each of the plurality of
networked computer systems in response to execution of the flash application in each of the
plurality of networked computer systems.

19. (Cancelled)

20. (Previously Presented) The method of claim 18, wherein the delivered firmware
install patch comprises at least one executable configured to verify the version of the firmware
stored in the computer system prior to writing the new firmware.

1 21. (Previously Presented) The method of claim 18, further comprising:
2 installing an operating system that requires the new firmware;
3 installing a software patch that requires the new firmware;
4 resetting the configuration file to redirect the system loader to select the appropriate
5 memory address upon a subsequent microprocessor reset to apply the upgraded firmware,
6 operating system, and software patch; and
7 removing the firmware install patch from the computer system.

1 22. – 26. (Cancelled)

1 27. (Previously Presented) A computer system communicatively coupled to a
2 network, comprising:
3 a programmable non-volatile memory having a first firmware;
4 at least one microprocessor operatively coupled to controllably write to the
5 programmable non-volatile memory and execute at least one instruction from the programmable
6 non-volatile memory in response to a boot request; and
7 at least one fixed storage device operatively coupled to the at least one microprocessor,
8 the storage device containing a firmware patch and a configuration file configurable to select the
9 firmware patch for execution on a next boot, the firmware patch comprising:
10 an install application;
11 a second firmware different from the first firmware; and
12 a flash application comprising:
13 a bootable kernel including a system loader interface and reboot
14 logic;
15 a firmware update logic; and
16 a non-volatile memory interface to enable the firmware update
17 logic to upgrade the first firmware in the programmable non-volatile memory with the second
18 firmware,
19 the install application executable on the microprocessor to verify whether
20 the second firmware is able to successfully upgrade the first firmware.

1 28. (Previously Presented) The computer system of claim 27, further comprising a
2 system loader to execute the flash application upon the next boot based on the configuration file.

1 29. (Previously Presented) The computer system of claim 27, wherein the firmware
2 update logic and the non-volatile memory interface store the second firmware on the non-volatile
3 memory.

1 30. (Cancelled)

1 31. (Previously Presented) The computer system of claim 27, wherein upon the
2 occurrence of a next boot after updating the first firmware with the second firmware, the second
3 firmware and a system loader transfer an operating system to a random access memory
4 communicatively coupled to the at least one microprocessor.

1 32. (Previously Presented) The computer system of claim 27, wherein the install
2 application executes a file system operation.

1 33. (Previously Presented) The computer system of claim 32, wherein the file system
2 operation results in the removal of the firmware patch from the at least one fixed storage device.

1 34. (Previously Presented) The computer system of claim 1, wherein the install
2 application resets the configuration file in the boot image to select the operating system to
3 execute on a subsequent boot after writing of the firmware revision.

1 35. (Previously Presented) The computer system of claim 1, wherein the firmware
2 patch is executable on the microprocessor to verify whether the firmware revision can
3 successfully upgrade the firmware within the programmable non-volatile memory.

1 36. (Previously Presented) The computer system of claim 35, wherein the firmware
2 patch is executable on the microprocessor to report to a remote system whether the firmware
3 revision can successfully upgrade the firmware within the programmable non-volatile memory.

1 37. (Cancelled)

1 38. (Previously Presented) The method of claim 18, further comprising resetting the
2 configuration file to direct the system loader to execute the operating system in each computer
3 system upon a next microprocessor reset after writing the new firmware.

1 39. (Previously Presented) The computer system of claim 27, wherein the
2 configuration file is resettable to enable execution of the operating system in response to a next
3 boot after updating the first firmware with the second firmware.

1 40. (Previously Presented) The computer system of claim 27, wherein the fixed
2 storage device further stores a boot image, the boot image containing the firmware patch and
3 configuration file.